Claims

1. Quality control device for a blood analyser (9) using whole blood, characterised in that it comprises means (1, 5) of storage by refrigeration for control bloods, means (1, 5) of restoring to temperature of the control bloods to the temperature prescribed by the manufacturer of the control bloods, stirring means (1, 12, 13, 14, 16, 17) for re-suspension of the cells, and sampling means (7) of the blood thus prepared, which makes it possible to incorporate the device in the blood analyser.

2. Device according to claim 1, characterised in that the means (1, 5) of storing control bloods comprise a specified number of tubes (2, 3, 4) sealed by a bung (2a, 3a, 4a) and arranged in a support (1) in contact with a refrigeration block (5) making it possible to adjust the temperature and to maintain an optimum temperature for storing the control blood.

3. Device according to claim 2, characterised in that the refrigeration block (5) is a Peltier effect refrigeration block.

4. Device according to either of claims 2 or 3, characterised in that the tube support (1) is disconnected from the refrigeration block (5) for restoring the temperature of the control bloods.

5. Device according to claim 3, characterised in that the current supplying the Peltier effect refrigeration block (5) is interrupted for a specified period of time for restoration of the temperature of the control bloods.

6. Device according to claim 3, characterised in that the Peltier effect refrigeration block (5) is controlled in order to reset and maintain the quality control to its utilisation temperature according to the specifications of the manufacturer.

7. Device according to one of claims 1 to 6, characterised in that the stirring means (1, 12, 13, 14, 16, 17) are stirring means operating by rocking and/or inversion formed by the tube support (1) articulated about a hinge (12) of the refrigeration block (2).

8. Device according to claim 7, characterised in that the angle of inversion of the inversion means is between 100° and 180°.

9. Device according to one of claims 1 to 6, characterised in that the stirring means are low-speed Vortex stirring means.

10. Device according to one of claims 1 to 9, characterised in that the blood sampling means are formed by a needle (7) capable of drawing the blood from the tubes.

11. Device according to claim 10, characterised in that the needle (7) is driven in a transverse movement over the tubes of blood to be analysed and the control bloods (2, 3, 4) as well as over a counting block (10) comprising mixing and rinsing tanks and in a vertical movement in order to penetrate into the tubes by piercing the bungs or by descending into the counting block (10) comprising mixing and rinsing tanks in order to carry out rinsing or dilutions of the blood.

12. Device according to claim 11, characterised in that the piercing of the bungs (2a, 3a, 4a) is effected when the tubes on their support (1) are in a high or low position.

13. Device according to one of claims 1 to 12, characterised in that it comprises programmable processing means (25,...,33) for checking that the values obtained by passing through each quality control correspond to the limit values and the values expected of the control blood.

14. Device according to claim 13, characterised in that the processing means trigger an alarm (30) if the values obtained during running of the quality control are outside the expected limits.

15. Device according to one of claims 1 to 14, characterised in that it comprises means (23) of triggering the quality control procedure either directly by an operator or automatically (22) or via an external connection to a control unit (25).

16. Device according to one of claims 1 to 15, characterised in that the transfer and analysis of the data are effected via an internal or external network implementing the standards currently in force, among which can be cited HL7, ASTM and XML.

17. Device according to one of claims 2 to 16, characterised in that the tubes (2, 3, 4) have means of identification and tracking by barcodes, electronic chips and/or magnetic label.

18. Blood analyser comprising a device according to one of claims 1 to 17, incorporated in the analyser.